

REMARKS

Introduction and Status of Claims

Claims 1–29 and 54 were pending and were rejected. Claims 7–8 and 11–14 are amended to correct an inconsistency in the preamble. Claims 1–29 and 54 remain pending. Reconsideration of the application is requested in view of the following remarks.

Rejections of Claims 1–9, 11–16, and 25–29

Claims 1–9, 11–16, and 25–29 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Pre-Grant Publication 2003/0208589 to Yamamoto et al. (“Yamamoto”) in view of U.S. Pre-Grant Publication 2002/0174207 to Battou (“Battou”).

Yamamoto relates to methods for identifying configuration inconsistencies in a Fibre Channel network. *See* Yamamoto at Abstract. Brief inspection of Yamamoto suggests that the system of Yamamoto operates by collecting information about a Fibre Channel network into a variety of tables and checking these tables for inconsistencies that would render the network inoperative. *See id.* at ¶¶ [0119]–[0161].

Battou has nothing at all to do with Fibre Channel Networks. Battou relates to network management systems that include distributed network managers have responsibility for certain portions of the network. *See* Battou at Abstract. The network managers can detect when another network manager is not functioning correctly, and can, without operator intervention, elect one of themselves to take over the functions of the malfunctioning/non-functioning counterpart. *See id.* Moreover, the system of Battou contemplates that the management network is a separate, out-of-band network from the underlying communications network. *Id.* at ¶¶ [0002]–[0004].

The rejections of claims 1–9, 11–16, and 25–29 as obvious over Yamamoto and Battou are insufficient for at least the reasons set forth below, which address all of the independent claims. Because the independent claims are allowable, all dependent claims are necessarily allowable; however, certain dependent claims are also addressed herein. The absence of argument regarding other dependent claims should not be construed as a concession that the limitations of those claims are taught by the cited art. There may be other reasons why these claims are separately patentable. Nonetheless, reconsideration and withdrawal of all rejections are requested in view of the following.

Claim 1

Claim 1 is drawn to a network configuration entity that is “configured or adapted to exclusively control a defined set of management functions throughout a secure network” where the set of management functions includes “the recognition, operation and succession of the network configuration entity.” Examiner rejected claim 1 as follows:

4. With regards to claims 1, 25-29, Yamamoto teaches a network configuration entity configured or adapted to exclusively control a defined set of management functions through a secure network (Yamamoto, paragraph 0059), said secured network comprising a plurality of switching devices (Yamamoto, paragraph 0001), and set said of management functions comprising recognition and operation (Yamamoto, paragraphs 0119, 0128). Yamamoto fails to teach the management functions including succession. However, Battou teaches the management functions including succession (Battou, page 1 paragraph 0008). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to utilize Battou's method of succession for management servers because it offers the advantage of improving the viability of the network by providing a greater degree of fault tolerance thus ensuring that network remains available in the event of a management server failure (Battou, paragraphs 0005-0007)

Examiner has parsed the words of claim 1 so finely as to eviscerate the limitation. As noted above, claim 1 requires that the network configuration entity “exclusively control a defined set of management functions throughout a secure network” and that the set of management functions include “recognition, operation and succession of the network configuration entity.” Applying basic principles of English grammar, the claim requires that a network configuration entity *exclusively* control three things—(1) recognition of the network configuration entity, (2) operation of the network configuration entity, and (3) succession of the network configuration entity—throughout the secure network.

Examiner concedes that “Yamamoto fails to teach the management functions including succession.” While this statement is certainly true, the limitation of claim 1 missing from Yamamoto is not merely succession of the network configuration entity, but exclusive control of succession of the network control entity throughout the network. This renders Examiner's reliance on Battou for this teaching inappropriate. As discussed in the response to the previous

Office Action, Battou does not teach that any entity has exclusive control of succession throughout the network. Battou may teach succession of control entities, but Battou clearly teaches exactly the opposite of exclusive control (*i.e.*, shared control). Therefore, the combination of Yamamoto and Battou still fails to teach or suggest each limitation of claim 1, and the rejection of claim 1 is improper.

Moreover, even if the combination of Yamamoto with Battou taught all the limitations of claim 1, which it does not, the combination itself is inappropriate. Yamamoto relates to Fibre Channel networking, while Battou relates to out-of-band management networks for communication networks. Because of the drastic differences between these types of networks, Examiner's statement that it would have been obvious to combine Battou with Yamamoto is merely a self-serving conclusion and not an articulated reason why one of ordinary skill in the art would have combined these two fundamentally different technologies. Besides, the combination of Battou with Yamamoto is clearly improper in view of the fact that Battou's disclosure of shared, distributed control teaches away from exclusive control, as recited in claim 1. Therefore, the rejection of claim 1 is improper.

Claim 2

Claim 2 depends from claim 1 and further recites that the network configuration entity of claim 1 include a memory for storing an NCE list "comprising an indication of each device in the network that may operate as said network configuration entity." Examiner implicitly concedes that Yamamoto contains no such teaching, as he relies on Battou at ¶¶ [0271], [0268], and [0269]. The cited portions of Yamamoto are reproduced below:

[0268] Each NMS includes software that runs separate and apart from the network it controls, as well as NMS agent software that runs on each Node Manager of the NMS's network. The NMS agent software allows the each NMS to communicate with the Node Managers of each of its network's nodes.

[0269] Moreover, each NMS may use a database server to store persistent data, e.g., longer-life data such as configuration and connection information. The database server may use LDAP, and Oracle® database software to store longer-life data such as configuration and connection information.

[0271] The hierarchical NMS structure is incorporated into the control architecture as needed.

Nothing in these cited paragraphs describes an NCE list “comprising an indication of each device in the network that may operate as said network configuration entity,” nor has the Examiner indicated what portions of this passage meet the cited limitation. Therefore, the rejection of claim 2 is improper.

Claims 5 & 6

Claims 5 and 6 depend (indirectly) from claim 1 and further recite that the network configuration entity includes a memory for storing a DCC list “associated with said one or more rules for interaction between and among devices....” Examiner cites Yamamoto at Fig. 11 and ¶ [0042] as teaching this limitation. Figure 11 of Yamamoto is a diagram of a “Topology Table,” which is described at ¶¶ [0105]–[0112]. Review of this passage shows that the topology table is created by the SAN manager by combining various other tables. Nothing in this passage (or Fig. 11) suggests that the information contained in the topology table is “associated with said one or more rules for interaction between and among devices....” Moreover, ¶ [0042] cited by Examiner has nothing to do with Fig. 11, and instead describes basic information about Fibre Channel zoning. Again, nothing in this passage has anything to do with “one or more rules for interaction between and among devices....” Therefore, the rejections of claims 5 and 6 are improper.

Claim 16

Claim 16 depends (indirectly) from claim 1 and further recites that the network configuration entity of claim 1 include a memory for storing an SCC list “comprising a list of devices authorized to participate in said secure network.” Examiner cites two paragraphs of Yamamoto (¶¶ [0001] & [0120]) and three paragraphs of Battou (¶¶ [0302] & [0306]–[0307]) as teaching the required SCC list. Each of these passages is reproduced below, with comments following:

[0001] The present invention relates generally to storage networks, and more particularly to techniques for centralized configuration management for servers, switches, and disk subsystems in storage networks.

As can be plainly seen, ¶ [0001] of Yamamoto says nothing at all about an SCC list “comprising a list of devices authorized to participate in said secure network.”

[0120] The SAN Manager 14000 discovers the SAN devices based on the Discovery List 14110, and SAN Manager 14000 collects the configuration information from the Management Agent in a SAN device. [Step 1310] The SAN Manager 14000 stores all the configuration information in the Topology Repository 14120. If any updates exist, the SAN Manager 14000 stores the old configuration in the Configuration History Table 14140. [Step 1320] The SAN Manager 14000 makes or updates the Topology Table 14130 based on the Topology Repository 14120. [Step 1330] Then, the SAN Manager 14000 outputs the results. [Step 1340] Processing continues with step 1300.

Paragraph [0120] of Yamamoto likewise contains no teaching or suggestion of an SCC list “comprising a list of devices authorized to participate in said secure network.” At most this passage teaches a list that contains information about devices that are connected to the network, without regard to whether they are authorized or not, and contains no information about devices that are not connected to the network, again without regard to whether they are authorized or not.

[0302] A common network management interface 3420 at the Network Management Layer provides an interface between: (a) applications 3405 (such as a GUI), customer services 3410, and other NMSs/OSSs 3415, and (b) a configuration manager 3425, connection manager 3430, 3440, fault manager 3445, and performance manager 3450, which may share common resources/services 3435, such as a database server, which uses an appropriate database interface, and a topology manager 3440. The database server or servers may store information for the managers 3425, 3430, 3445 and 3450. The interface 3420 may provides a rich set of client interfaces that include RMI, EJB and CORBA, which allow the carrier to integrate the NMS with their systems to perform end-to-end provisioning and unify event information. Third-party services and business layer applications can also be easily integrated into the NMS via this interface. The interface 3420 may be compatible with industry standards where possible.

Paragraph [0302] of Battou also lacks any disclosure of an SCC list “comprising a list of devices authorized to participate in said secure network.”

[0306] The configuration manager 3425 provides a switch level view of the NMS, and may provide functions including provisioning of the Node Managers and LCMs, status and control, and installation and upgrade support. The configuration manager 3425 may also enable the user, e.g., via the GUI 3405, to graphically identify the state of the system, boards, and lower level devices, and to provide a point and click configuration to quickly configure ports and place them in service. The configuration manager may collect switch information such as IP address and switch type, as well as card-specific information such as serial number and firmware/software revision.

[0307] The connection manager 3430 provides a way to view existing light path connections between OTSs, including connections within the OTS itself, and to create such connections. The connection manager 3430 supports simple cross connects as well as end-to-end connections traversing the entire network. The user is able to dictate the exact path of a light path by manually specifying the ports and cross connects to use at an OTS. Or, the user may only specify the endpoints and let the connection manager set up the connection automatically. Generally, the endpoints of a connection are OA ports, and the intermediate ports are TP ports. The user may also select a wavelength for the connection. The types of connections supported include Permanent Optical Circuit (POC), Switched Optical Circuit (SOC), as well as Smart Permanent Optical Circuit (SPOC). SOC and SPOC connections are routed by the network element routing and signaling planes. SOC connections are available for viewing only.

Finally, ¶¶ [0306]–[0307] of Battou also fails to teach or suggest anything relating to an SCC list “comprising a list of devices authorized to participate in said secure network.” Moreover, this passage also makes abundantly clear that it is talking about telecommunication provider optical fiber networks, and not Fibre Channel networks, thus reinforcing the impropriety of combining Battou with Yamamoto.

Therefore, the rejection of claim 16 is improper.

Claims 25–29

As can be seen from Examiner’s rejection of claim 1 (reproduced above), independent claim 25 and claims 26–29 depending therefrom were rejected using exactly the same rationale as the rejection of claim 1. While claim 25 is a separate independent claim having different limitations than claim 1, which should be examined independently on its own merit, the rejection

of claim 1 is improper for at least the reasons set forth above. Specifically, claim 25 recites a network comprising “a network configuration entity that has network-wide control over a defined set of management functions” including “the recognition, operation *and succession of the network configuration entity...*” (emphasis added). As described in greater detail above, the Examiner has conceded that Yamamoto has no teaching or suggestion at all relating to the control of succession of the network configuration entity. Furthermore, Battou contains no teaching or suggestion of a device that has network-wide control over anything—including succession of the network configuration entity.” Therefore, the rejection of claim 25 is improper.

While Examiner has not specifically addressed claim 26, which depends from claim 25, claim 26 is also patentable over Yamamoto and Battou. Claim 26 recites that in the network of claim 25 “recognition, operation and succession of the network configuration entity is associated with a list of network devices that are eligible to become equivalent to said network configuration entity.” Examiner has provided no citation to any reference teaching this limitation. Moreover, neither reference includes any such teaching. Thus, the rejection of claim 28 is improper.

Similarly, Examiner has not specifically addressed claim 28, which also depends from claim 25. Claim 28 is also patentable over Yamamoto and Battou. Claim 28 recites that the network of claim 25 further comprises “one or more back-up network configuration entities.” Yamamoto clearly lacks any such teaching. While the Examiner contends that Battou teaches succession of certain network entities, these are not “network configuration entities” as required by claim 28 because the entities of Battou do not have “network-wide” control. Thus, the rejection of claim 28 is also improper.

Rejections of Claims 10, 17–24, and 54

Claims 10, 17–24, and 54 were rejected under 35 U.S.C. § 103(a) as obvious over Yamamoto in view of Battou and U.S. Pre-Grant Publication 2004/0015957 to Zara (“Zara”). Claim 10 depends (indirectly) from claim 1 and is therefore patentable for at least the reasons set forth above with respect to claim 1. Claims 17–24 and 54 are all independent claims that require, in various combination, one or more of the following limitations: (1) an NCE list substantially as described above with respect to claim 1, (2) an SCC list substantially as described above with respect to claim 16, and (3) a DCC list substantially as described above

with respect to claims 5 and 6. Therefore, each of these claims is patentable for at least the reasons set forth above with respect to the corresponding limitations. The rejection of these claims is therefore improper.

Conclusion

For the reasons set forth above, reconsideration and withdrawal of all outstanding rejections and a Notice of Allowance for all pending claims are requested.

Respectfully submitted,

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Date

/Billy C. Allen III/

Billy C. Allen III

Reg. No. 46,147

WONG, CABELLO, LUTSCH,

RUTHERFORD & BRUCCULERI, L.L.P.

20333 State Highway 249, Suite 600

Houston, TX 77070

832/446-2400

832/446-2424 (facsimile)

wcpatent@counselip.com